

06/15/99

Jc674 U.S. PTO

Please type a plus sign (+) inside this box → ☒PTO/SB/05 (4/98)  
Approved for use through 09/30/2000. OMB 0651-0032  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**UTILITY  
PATENT APPLICATION  
TRANSMITTAL**

(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))

Attorney Docket No.	970376
First Inventor or Application Identifier	Ralph Pringle, Jr.
Title	Scintillation-Immune Adaptive Optics Reconstructor
Express Mail Label No.	EJ 017 997 055 US

**APPLICATION ELEMENTS**

See MPEP chapter 600 concerning utility patent application contents.

1. ☒ \* Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
2. ☒ Specification [Total Pages (preferred arrangement set forth below)
  - Descriptive title of the Invention
  - Cross References to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to Microfiche Appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
3. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets (informal drawings)
4. ☐ Oath or Declaration [Total Pages - a. ☒ Newly executed (original or copy)
- b. ☐ Copy from a prior application (37 C.F.R. § 1.63(d))  
(for continuation/divisional with Box 16 completed)
  - i. ☐ DELETION OF INVENTOR(S)  
Signed statement attached deleting  
inventor(s) named in the prior application,  
see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).

**\* NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).****ADDRESS TO:** Assistant Commissioner for Patents  
Box Patent Application  
Washington, DC 20231

5. ☐ Microfiche Computer Program (Appendix)
6. Nucleotide and/or Amino Acid Sequence Submission  
(if applicable, all necessary)
  - a. ☐ Computer Readable Copy
  - b. ☐ Paper Copy (identical to computer copy)
  - c. ☐ Statement verifying identity of above copies

**ACCOMPANYING APPLICATION PARTS**

7. ☒ Assignment Papers (cover sheet & document(s))
8. ☐ 37 C.F.R. § 3.73(b) Statement of Power of Attorney  
(when there is an assignee)
9. ☐ English Translation Document (if applicable)
10. ☐ Information Disclosure Statement (IDS)/PTO-1449 [Copies of IDS Citations
11. ☐ Preliminary Amendment
12. ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
  - \* Small Entity Statement filed in prior application, Status still proper and desired (PTO/SB/09-12)
13. ☐ Statement(s) of Priority Document(s)  
(if foreign priority is claimed)
14. ☐ Other: \_\_\_\_\_
15. ☐ Other: \_\_\_\_\_

**16. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:**☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: \_\_\_\_\_

Prior application information: Examiner \_\_\_\_\_ Group / Art Unit: \_\_\_\_\_

**For CONTINUATION or DIVISIONAL APPS only:** The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.**17. CORRESPONDENCE ADDRESS**☐ Customer Number or Bar Code Label

(Insert Customer No. or Attach bar code label here)

or ☒ Correspondence address below

Name	RAYTHEON COMPANY				
	PATENTS & LICENSING				
Address	Loc: EO Bldg E1 M/S E150				
	P O BOX 902				
City	EL SEGUNDO	State	CA	Zip Code	90245-0902
Country	U.S.A.	Telephone	(805) 562-2108	Fax	(805) 562-4120

Name (Print/Type)	William C. Schubert	Registration No. (Attorney/Agent)	30,102
Signature	<i>William C. Schubert</i>	Date	1999-06-03

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

<h1 style="margin: 0;">FEE TRANSMITTAL</h1> <h2 style="margin: 0;">for FY 1999</h2> <p style="font-size: small; margin: 0;">Patent fees are subject to annual revision. Small Entity payments must be supported by a small entity statement, otherwise large entity fees must be paid. See Forms PTO/SB/09-12.</p>		<b>Complete if Known</b>	
<b>TOTAL AMOUNT OF PAYMENT</b> (\$ ) 800		Application Number	
		Filing Date	
		First Named Inventor <b>Pringle, Ralph Jr.</b>	
		Examiner Name	
		Group / Art Unit	
		Attorney Docket No. <b>970376</b>	

METHOD OF PAYMENT (check one)	FEE CALCULATION (continued)																																																																																																																																																																																						
<p>1. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:</p> <p>Deposit Account Number <b>50-0616</b></p> <p>Deposit Account Name <b>Raytheon Company</b></p> <p><input checked="" type="checkbox"/> Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17</p> <p>2. <input type="checkbox"/> Payment Enclosed:  <input type="checkbox"/> Check <input type="checkbox"/> Money Order <input type="checkbox"/> Other             </p>	<p><b>3. ADDITIONAL FEES</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Large Entity Fee Code</th> <th>Small Entity Fee Code</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>105</td><td>130</td><td>205</td><td>65</td><td>Surcharge - late filing fee or oath</td><td></td></tr> <tr><td>127</td><td>50</td><td>227</td><td>25</td><td>Surcharge - late provisional filing fee or cover sheet.</td><td></td></tr> <tr><td>139</td><td>130</td><td>139</td><td>130</td><td>Non-English specification</td><td></td></tr> <tr><td>147</td><td>2,520</td><td>147</td><td>2,520</td><td>For filing a request for reexamination</td><td></td></tr> <tr><td>112</td><td>920*</td><td>112</td><td>920*</td><td>Requesting publication of SIR prior to Examiner action</td><td></td></tr> <tr><td>113</td><td>1,840*</td><td>113</td><td>1,840*</td><td>Requesting publication of SIR after Examiner action</td><td></td></tr> <tr><td>115</td><td>110</td><td>215</td><td>55</td><td>Extension for reply within first month</td><td></td></tr> <tr><td>116</td><td>380</td><td>216</td><td>190</td><td>Extension for reply within second month</td><td></td></tr> <tr><td>117</td><td>870</td><td>217</td><td>435</td><td>Extension for reply within third month</td><td></td></tr> <tr><td>118</td><td>1,360</td><td>218</td><td>680</td><td>Extension for reply within fourth month</td><td></td></tr> <tr><td>128</td><td>1,850</td><td>228</td><td>925</td><td>Extension for reply within fifth month</td><td></td></tr> <tr><td>119</td><td>300</td><td>219</td><td>150</td><td>Notice of Appeal</td><td></td></tr> <tr><td>120</td><td>300</td><td>220</td><td>150</td><td>Filing a brief in support of an appeal</td><td></td></tr> <tr><td>121</td><td>260</td><td>221</td><td>130</td><td>Request for oral hearing</td><td></td></tr> <tr><td>138</td><td>1,510</td><td>138</td><td>1,510</td><td>Petition to institute a public use proceeding</td><td></td></tr> <tr><td>140</td><td>110</td><td>240</td><td>55</td><td>Petition to revive - unavoidable</td><td></td></tr> <tr><td>141</td><td>1,210</td><td>241</td><td>605</td><td>Petition to revive - unintentional</td><td></td></tr> <tr><td>142</td><td>1,210</td><td>242</td><td>605</td><td>Utility issue fee (or reissue)</td><td></td></tr> <tr><td>143</td><td>430</td><td>243</td><td>215</td><td>Design issue fee</td><td></td></tr> <tr><td>144</td><td>580</td><td>244</td><td>290</td><td>Plant issue fee</td><td></td></tr> <tr><td>122</td><td>130</td><td>122</td><td>130</td><td>Petitions to the Commissioner</td><td></td></tr> <tr><td>123</td><td>50</td><td>123</td><td>50</td><td>Petitions related to provisional applications</td><td></td></tr> <tr><td>126</td><td>240</td><td>126</td><td>240</td><td>Submission of Information Disclosure Stmt</td><td></td></tr> <tr><td>581</td><td>40</td><td>581</td><td>40</td><td>Recording each patent assignment per property (times number of properties)</td><td>40</td></tr> <tr><td>146</td><td>760</td><td>246</td><td>380</td><td>Filing a submission after final rejection (37 CFR 1.129(a))</td><td></td></tr> <tr><td>149</td><td>760</td><td>249</td><td>380</td><td>For each additional invention to be examined (37 CFR 1.129(b))</td><td></td></tr> <tr><td colspan="5">Other fee (specify) _____</td><td></td></tr> <tr><td colspan="5">Other fee (specify) _____</td><td></td></tr> <tr> <td colspan="5" style="text-align: right;"> <b>Reduced by Basic Filing Fee Paid</b> </td> </tr> <tr> <td colspan="5" style="text-align: right;"> <b>SUBTOTAL (3) (\$ ) 40</b> </td> </tr> </tbody> </table>	Large Entity Fee Code	Small Entity Fee Code	Fee Description	Fee Paid	105	130	205	65	Surcharge - late filing fee or oath		127	50	227	25	Surcharge - late provisional filing fee or cover sheet.		139	130	139	130	Non-English specification		147	2,520	147	2,520	For filing a request for reexamination		112	920*	112	920*	Requesting publication of SIR prior to Examiner action		113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action		115	110	215	55	Extension for reply within first month		116	380	216	190	Extension for reply within second month		117	870	217	435	Extension for reply within third month		118	1,360	218	680	Extension for reply within fourth month		128	1,850	228	925	Extension for reply within fifth month		119	300	219	150	Notice of Appeal		120	300	220	150	Filing a brief in support of an appeal		121	260	221	130	Request for oral hearing		138	1,510	138	1,510	Petition to institute a public use proceeding		140	110	240	55	Petition to revive - unavoidable		141	1,210	241	605	Petition to revive - unintentional		142	1,210	242	605	Utility issue fee (or reissue)		143	430	243	215	Design issue fee		144	580	244	290	Plant issue fee		122	130	122	130	Petitions to the Commissioner		123	50	123	50	Petitions related to provisional applications		126	240	126	240	Submission of Information Disclosure Stmt		581	40	581	40	Recording each patent assignment per property (times number of properties)	40	146	760	246	380	Filing a submission after final rejection (37 CFR 1.129(a))		149	760	249	380	For each additional invention to be examined (37 CFR 1.129(b))		Other fee (specify) _____						Other fee (specify) _____						<b>Reduced by Basic Filing Fee Paid</b>					<b>SUBTOTAL (3) (\$ ) 40</b>				
Large Entity Fee Code	Small Entity Fee Code	Fee Description	Fee Paid																																																																																																																																																																																				
105	130	205	65	Surcharge - late filing fee or oath																																																																																																																																																																																			
127	50	227	25	Surcharge - late provisional filing fee or cover sheet.																																																																																																																																																																																			
139	130	139	130	Non-English specification																																																																																																																																																																																			
147	2,520	147	2,520	For filing a request for reexamination																																																																																																																																																																																			
112	920*	112	920*	Requesting publication of SIR prior to Examiner action																																																																																																																																																																																			
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action																																																																																																																																																																																			
115	110	215	55	Extension for reply within first month																																																																																																																																																																																			
116	380	216	190	Extension for reply within second month																																																																																																																																																																																			
117	870	217	435	Extension for reply within third month																																																																																																																																																																																			
118	1,360	218	680	Extension for reply within fourth month																																																																																																																																																																																			
128	1,850	228	925	Extension for reply within fifth month																																																																																																																																																																																			
119	300	219	150	Notice of Appeal																																																																																																																																																																																			
120	300	220	150	Filing a brief in support of an appeal																																																																																																																																																																																			
121	260	221	130	Request for oral hearing																																																																																																																																																																																			
138	1,510	138	1,510	Petition to institute a public use proceeding																																																																																																																																																																																			
140	110	240	55	Petition to revive - unavoidable																																																																																																																																																																																			
141	1,210	241	605	Petition to revive - unintentional																																																																																																																																																																																			
142	1,210	242	605	Utility issue fee (or reissue)																																																																																																																																																																																			
143	430	243	215	Design issue fee																																																																																																																																																																																			
144	580	244	290	Plant issue fee																																																																																																																																																																																			
122	130	122	130	Petitions to the Commissioner																																																																																																																																																																																			
123	50	123	50	Petitions related to provisional applications																																																																																																																																																																																			
126	240	126	240	Submission of Information Disclosure Stmt																																																																																																																																																																																			
581	40	581	40	Recording each patent assignment per property (times number of properties)	40																																																																																																																																																																																		
146	760	246	380	Filing a submission after final rejection (37 CFR 1.129(a))																																																																																																																																																																																			
149	760	249	380	For each additional invention to be examined (37 CFR 1.129(b))																																																																																																																																																																																			
Other fee (specify) _____																																																																																																																																																																																							
Other fee (specify) _____																																																																																																																																																																																							
<b>Reduced by Basic Filing Fee Paid</b>																																																																																																																																																																																							
<b>SUBTOTAL (3) (\$ ) 40</b>																																																																																																																																																																																							
<p><b>FEE CALCULATION</b></p> <p><b>1. BASIC FILING FEE</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Large Entity Fee Code</th> <th>Small Entity Fee Code</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>101</td><td>760</td><td>201</td><td>380</td><td>Utility filing fee</td><td>760</td></tr> <tr><td>106</td><td>310</td><td>206</td><td>155</td><td>Design filing fee</td><td></td></tr> <tr><td>107</td><td>480</td><td>207</td><td>240</td><td>Plant filing fee</td><td></td></tr> <tr><td>108</td><td>760</td><td>208</td><td>380</td><td>Reissue filing fee</td><td></td></tr> <tr><td>114</td><td>150</td><td>214</td><td>75</td><td>Provisional filing fee</td><td></td></tr> <tr> <td colspan="5" style="text-align: right;"> <b>SUBTOTAL (1) (\$ ) 760</b> </td> </tr> </tbody> </table> <p><b>2. EXTRA CLAIM FEES</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Total Claims</th> <th>Extra Claims</th> <th>Fee from below</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr> <td>15</td> <td>-20** = 0</td> <td>0</td> <td>0</td> </tr> <tr> <td>02</td> <td>-3** = 0</td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="4">Multiple Dependent</td> </tr> </tbody> </table> <p>**or number previously paid, if greater; For Reissues, see below</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Large Entity Fee Code</th> <th>Small Entity Fee Code</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>103</td><td>18</td><td>203</td><td>9</td><td>Claims in excess of 20</td><td></td></tr> <tr><td>102</td><td>78</td><td>202</td><td>39</td><td>Independent claims in excess of 3</td><td></td></tr> <tr><td>104</td><td>260</td><td>204</td><td>130</td><td>Multiple dependent claim, if not paid</td><td></td></tr> <tr><td>109</td><td>78</td><td>209</td><td>39</td><td>** Reissue independent claims over original patent</td><td></td></tr> <tr><td>110</td><td>18</td><td>210</td><td>9</td><td>** Reissue claims in excess of 20 and over original patent</td><td></td></tr> <tr> <td colspan="5" style="text-align: right;"> <b>SUBTOTAL (2) (\$ ) 0</b> </td> </tr> </tbody> </table>	Large Entity Fee Code	Small Entity Fee Code	Fee Description	Fee Paid	101	760	201	380	Utility filing fee	760	106	310	206	155	Design filing fee		107	480	207	240	Plant filing fee		108	760	208	380	Reissue filing fee		114	150	214	75	Provisional filing fee		<b>SUBTOTAL (1) (\$ ) 760</b>					Total Claims	Extra Claims	Fee from below	Fee Paid	15	-20** = 0	0	0	02	-3** = 0	0	0	Multiple Dependent				Large Entity Fee Code	Small Entity Fee Code	Fee Description	Fee Paid	103	18	203	9	Claims in excess of 20		102	78	202	39	Independent claims in excess of 3		104	260	204	130	Multiple dependent claim, if not paid		109	78	209	39	** Reissue independent claims over original patent		110	18	210	9	** Reissue claims in excess of 20 and over original patent		<b>SUBTOTAL (2) (\$ ) 0</b>																																																																																													
Large Entity Fee Code	Small Entity Fee Code	Fee Description	Fee Paid																																																																																																																																																																																				
101	760	201	380	Utility filing fee	760																																																																																																																																																																																		
106	310	206	155	Design filing fee																																																																																																																																																																																			
107	480	207	240	Plant filing fee																																																																																																																																																																																			
108	760	208	380	Reissue filing fee																																																																																																																																																																																			
114	150	214	75	Provisional filing fee																																																																																																																																																																																			
<b>SUBTOTAL (1) (\$ ) 760</b>																																																																																																																																																																																							
Total Claims	Extra Claims	Fee from below	Fee Paid																																																																																																																																																																																				
15	-20** = 0	0	0																																																																																																																																																																																				
02	-3** = 0	0	0																																																																																																																																																																																				
Multiple Dependent																																																																																																																																																																																							
Large Entity Fee Code	Small Entity Fee Code	Fee Description	Fee Paid																																																																																																																																																																																				
103	18	203	9	Claims in excess of 20																																																																																																																																																																																			
102	78	202	39	Independent claims in excess of 3																																																																																																																																																																																			
104	260	204	130	Multiple dependent claim, if not paid																																																																																																																																																																																			
109	78	209	39	** Reissue independent claims over original patent																																																																																																																																																																																			
110	18	210	9	** Reissue claims in excess of 20 and over original patent																																																																																																																																																																																			
<b>SUBTOTAL (2) (\$ ) 0</b>																																																																																																																																																																																							

SUBMITTED BY				Complete (if applicable)	
Typed or Printed Name	William C. Schubert			Reg. Number	30,102
Signature				Date	1999-06-03
				Deposit Account User ID	